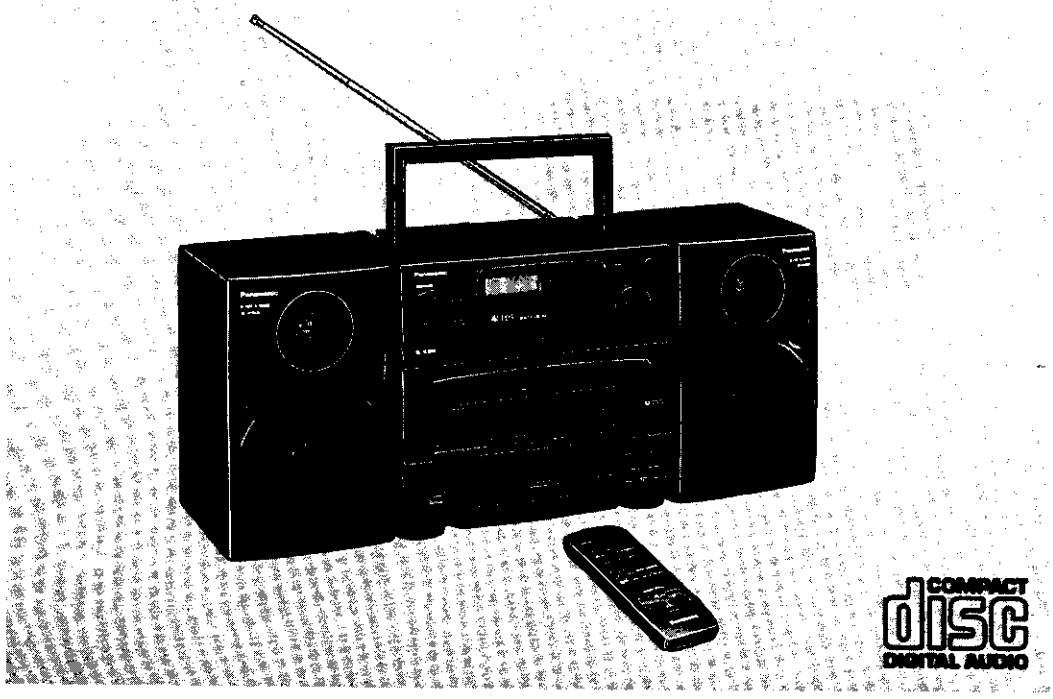
Operating Instructions

Portable Stereo Component System

RX-DT670



Panasonic

Before connecting, operating or adjusting this product, please read these instructions completely.

GN

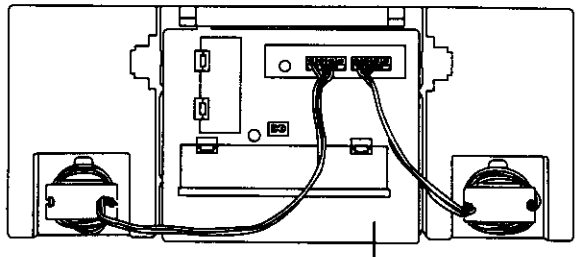
RQT1927-B

Dear Customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

CAUTION!

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.



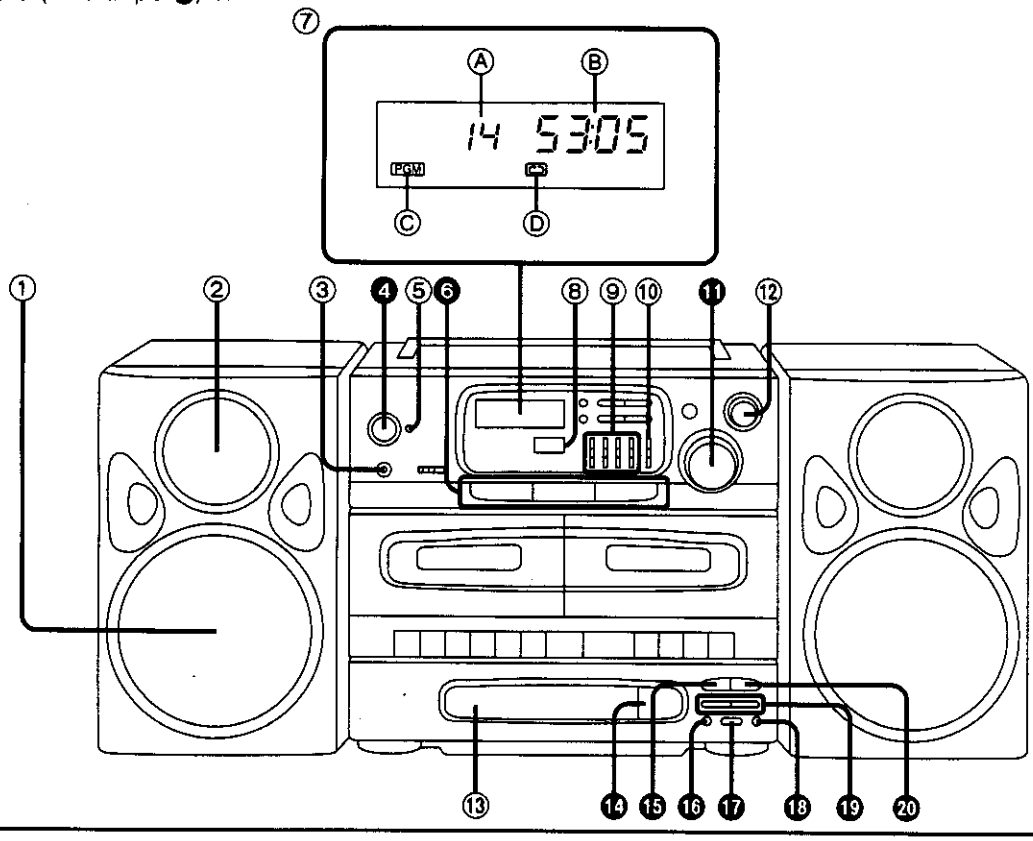
DANGER-Invisible laser radiation when open.
AVOID DIRECT EXPOSURE TO BEAM.

(Inside of product)

CLASS 1
LASER PRODUCT

LOCATION OF CONTROLS

The functions indicated by the numbers with black background (for example ❹) can also be activated from the remote control transmitter. (See page 6.)



CD/GENERAL CONTROLS

① **Speakers (Woofer)**

② **Speakers (Tweeter)**

③ **Headphones jack (PHONES)**

❹ **Operation switch (OPERATION)**

⑤ **Operation/battery check/AC connection indicator (OPR/BATT-STDBY ⏻)**
The indicator lights green when the unit is turned on.
When the AC power supply is used, it functions as an AC connection indicator. (The indicator colour changes to red when the unit is turned off.)
When the unit is operated on batteries, it functions as a battery check indicator. (See page 9.)

❻ **Function select buttons (TAPE • TUNER • CD)**

⑦ **Display section**
When using AC power or car battery cord, the backlight of the display will be on.
- **A: Track display**
- **B: Playing time display**
- **C: Program indicator (PGM)**
- **D: Repeat indicator ( )**

⑧ **Remote control sensor (SENSOR)**

⑨ **Graphic equalizer controls (GRAPHIC EQUALIZER)**

⑩ **Balance control (BALANCE)**

⓫ **Volume control (VOLUME)**

⑫ **S-XBS level control (S-XBS LEVEL)**

⑬ **Disc tray**

⓮ **CD open/close button (⏏ OPEN/CLOSE)**

⓯ **Play/pause button (▶/❚❚)**
Press this button to start the disc play or stop the disc play temporarily.

⓰ **Repeat button (REPEAT)**

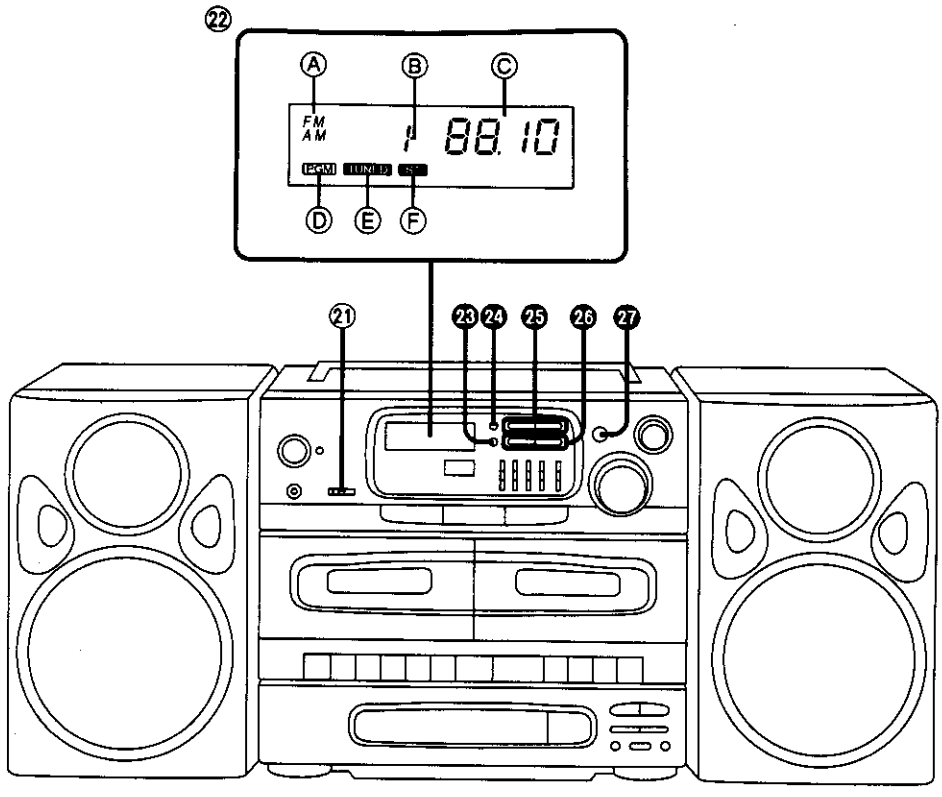
⓱ **Memory/recall button (MEMORY/RECALL)**
Press this button to program the desired track(s) and to confirm the programmed content(s).

⓲ **Edit pause button (EDIT PAUSE)**

⓳ **Skip/search buttons (⏮ / ◀◀ · ▶▶ / ⏭)**
Press either button to skip (backward or forward) the tracks, or to search (backward or forward) the desired portion of the disc.

⓴ **Stop/clear button (■/CLEAR)**
Press this button to stop the disc play or to clear the programmed track(s) and sequence.

LOCATION OF CONTROLS



TUNER CONTROLS

㉑ Edit recording speed/beat proof selector (EDIT MODE/BP)
Set the selector to reduce "beat" signal.

㉒ Display section
- **A: Band indicator (FM, AM)**
- **B: Preset channel indicator**
- **C: Frequency display**
- **D: Program indicator (PGM)**
- **E: Tuning indicator (TUNED)**
- **F: Stereo indicator (ST)**
  This indicator does not appear when the FM mode button is pressed to monaural mode.

㉓ Memory button (MEMORY)
Press this button to memorize a broadcast frequency into the preset memory.

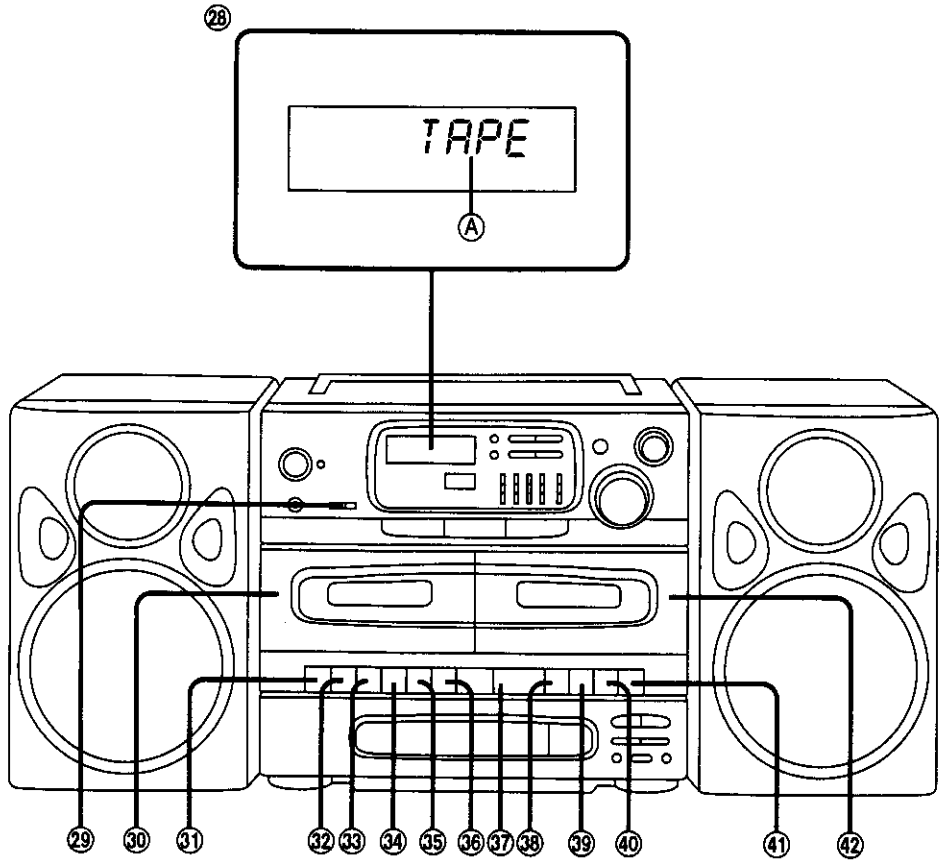
㉔ FM mode button (FM MODE)
Press this button to select the stereo reception or manual reception.

㉕ Preset memory channel buttons (PRESET)
If you memorize the broadcast staion, you can select the preset channel by pressing one of these buttons.

㉖ Tuning buttons (TUNING MANUAL)
These buttons are used to tune the radio to the desired broadcast frequency.

㉗ Band button (BAND)
Press this button to select the desired radio band.

LOCATION OF CONTROLS



DECK CONTROLS

㉘ Display section
A: Tape mode indicator (TAPE)

㉙ Edit recording speed/beat proof selector (EDIT MODE/BP)
NOR/▮: Normal speed
HIGH/▮▮: High speed

㉚ Deck 1 cassette compartment cover

㉛ Record button (● REC)
Press this button to record a tape.

㉜ Playback button (▶ PLAY)
Press this button to playback a tape.

㉝ Rewind/review button (◀◀/REV)
Press this button to rewind the tape during stop condition, or to search the desired portion (backward) during playback.

㉞ Fast forward/cue button (CUE/▶▶)
Press this button to fast forward the tape during stop condition, or to search the desired portion (forward) during playback.

㉟ Stop/eject button (⏏ STOP/EJECT)
Press this button to stop the tape during tape movement, and to open the cassette compartment cover during tape stop condition.

㊱ Pause button (▮▮ PAUSE)
Press this button to stop the tape temporarily.

㊲ Playback button (▶ PLAY)

㊳ Rewind/review button (◀◀/REV)

㊴ Fast forward/cue button (CUE/▶▶)

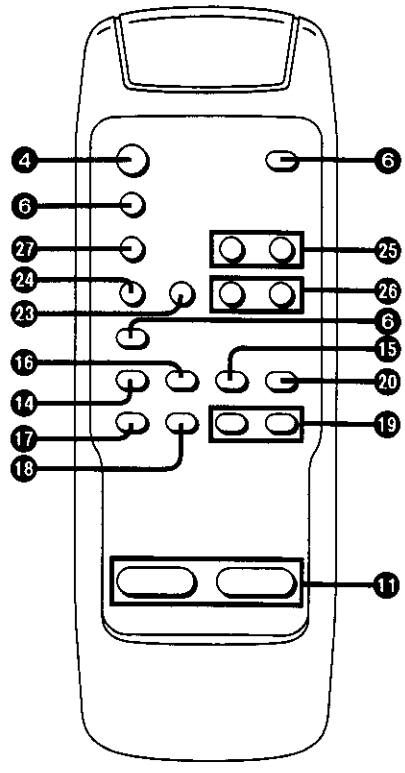
㊵ Stop/eject button (⏏ STOP/EJECT)

㊶ Pause button (▮▮ PAUSE)

㊷ Deck 2 cassette compartment cover

REMOTE CONTROL OPERATION

- The receiving angle is approx. 60° (30° in each of the left, right, up, and down directions).
- The maximum usable distance in about 7 m when the remote control transmitter is aimed directly at the remote control sensor.



The functions of buttons ❹, ❻, ⓫, ⓮, ⓯, ⓰, ⓱, ⓲, ⓳, ⓴, ㉓, ㉔, ㉕, ㉖ and ㉗ are identical to those described under "LOCATION OF CONTROLS" on pages 3 and 4.

■ Operations

The following operations can be performed using the remote control transmitter.
They are identical to the operations performed using the main unit controls.

•Operation Switch
Turn the unit on and off.
(When using the battery power, you can only turn off.)

•CD operation
Selection of CD mode, sequential play, program play, direct access play, repeat play, skip function, search function, program clear, pause, stop, disc tray open/close.

•Radio operation
Selection of tuner mode, band switching, manual tuning, FM auto tuning, memory presetting, memory tuner operation, FM mode selection.

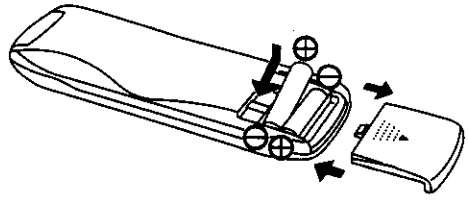
•Tape operation
Selection of tape mode.

•Volume control
Volume up/down

When operating the unit using the remote control transmitter press the buttons on the remote control transmitter slowly and accurately.

■ Inserting the remote control transmitter batteries

1. Open the cover of the battery case.
2. Insert the batteries.
   Batteries used: Two R03//LR03 (UM-4 or equivalent, not included).



Insert the batteries in the correct polarity (⊕, ⊖).

■ Replacement interval of remote control transmitter batteries

Although the life of the batteries will vary depending upon the number of times that the remote control transmitter is used, the average life based on the used of the batteries is about 1 year.

If the remote control transmitter fails to operate when it is held near the unit, replace the batteries with new batteries, even if one year has not elapsed.

Precautions for using the remote control transmitter

- If the unit is exposed to direct sunlight, the remote control transmitter may sometimes fail to function. Be sure, therefore, to keep the unit out of direct sunlight. In such case, the maximum range of the remote control transmitter (approx. 7 m) may sometimes be reduced.
- If strong light falls on the remote control sensor of the unit (e.g. high frequency type fluorescent lamp), the signals from the remote control transmitter may fail to be received by the unit. In such a case, take steps to prevent strong light from falling onto the unit.
- If there is an obstacle between the remote control transmitter and the unit, the signals from the remote control transmitter will be blocked off, preventing the unit from operating.
  Use the remote control transmitter in a position directly in front of the unit so that the remote control sensor can be seen.
- Even if the remote control transmitter is not aimed at the unit, the unit may sometimes operate when a button on the remote control transmitter is pressed. This is caused by the infra-red beam being reflected off a wall, ceiling, floor, or furniture, and striking the remote control transmitter of the unit.

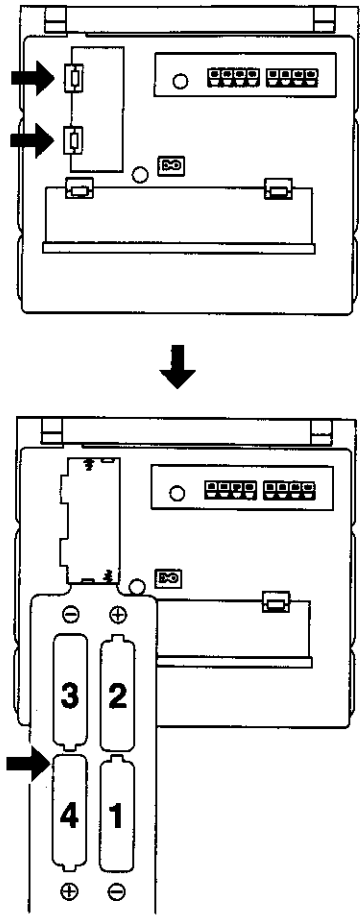
- Do not operate the remote control transmitter of this unit near a unit which is designed to operate using a different remote control transmitter.
- Do not simultaneously use this remote control transmitter and one or more remote control transmitters intended either for the same type of unit or for another type of unit, such as a television set.
- If you operate the remote control transmitter near the unit when listening to an AM broadcast, noise may be heard. In such a case, hold the remote control transmitter at a sufficient distance from the unit so that noise is not heard.
- Do not disassemble the remote control transmitter or touch any of the components inside it.
  Do not place a heavy object on the remote control transmitter or leave it exposed to direct sunlight or in a hot location.
- Do not spill liquids on the remote control transmitter. This may cause damage to the remote control transmitter.

INSTALLING THE DRY BATTERIES FOR MEMORY BACK-UP

This is a function which preserves the preset memory and most-recent memory functions. In the event of a power failure, or if the AC mains cord is disconnected from the household AC mains outlet (during AC operation), or should the batteries fail, the memory back-up batteries will preserve the preset memory and the most-recent memory functions of this unit.

■ Memory back-up batteries (four R6/LR6)

1. Open the memory back-up battery compartment cover.
2. Insert four "R6/LR6" size (UM-3 or equivalent, not included) batteries into the battery compartment, making sure that the batteries are installed in the designated numerical order and that the proper polarities are maintained.
3. Close the cover.
   The life of the memory back-up batteries is about one year.
   While exchanging the memory back-up batteries, be sure to connect the AC mains cord both to the unit and household AC mains outlet.



•To prevent erasing the memory

In case the memory back-up batteries are not used, power failure (when using AC mains) or the following operations cause the erasure of the memory:

When using AC mains: unplugging the AC mains cord from the household AC mains outlet.

When using battery power ("R20/LR20"): inserting the AC mains cord only into the AC socket of this unit.

If one of the above cases occurs, enter the program into the memory again.

In order to avoid the accidental erasure of the program in the memory, using the memory back-up batteries (4 "R6/LR6" size, UM-3 or equivalent, not included) is recommended.

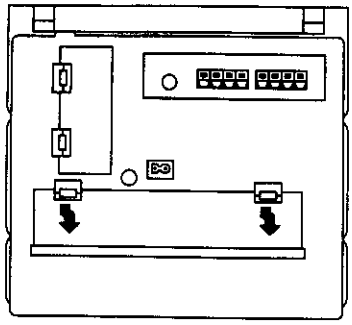
•Battery removal

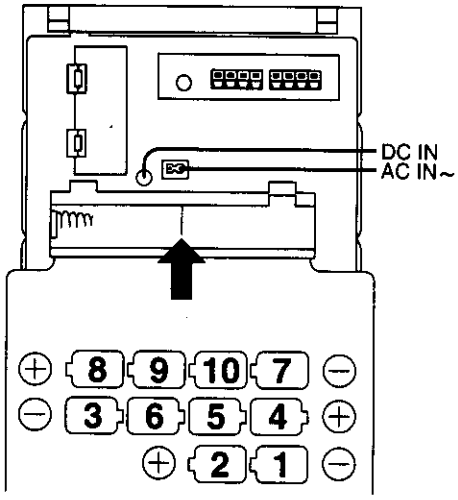
Press the ⊖ side of the no. 4's battery.

POWER SOURCE

■ Battery operation (ten R20/LR20)

Insert ten "R20/LR20" size (UM-1 or equivalent, not included) batteries into the battery compartment, making sure that the batteries are installed in the designated numerical order and that the proper polarities are maintained.

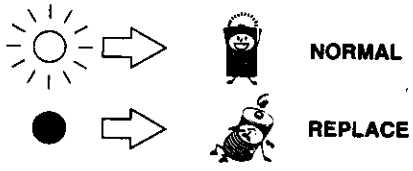




•Battery life

The amount of light provided by the operation/battery check/ AC connection indicator is a good indication as to how much longer the batteries can be used.

- Press the operation switch to turn on the unit.
  When the operation/battery check/AC connection indicator goes out or dims, replace all batteries with new ones.

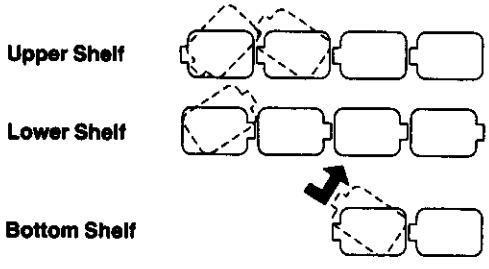


Important note:

If you cannot open the cassette compartment cover and eject the cassette tape when running this unit on batteries, replace the batteries with new ones, or use the AC power source, and then perform the operation once again.

•Battery removal

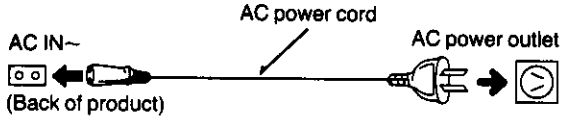
Remove as shown in the figure below.



■ AC power operation

Connect the included AC mains cord to the AC socket in the unit and your household AC mains outlet.

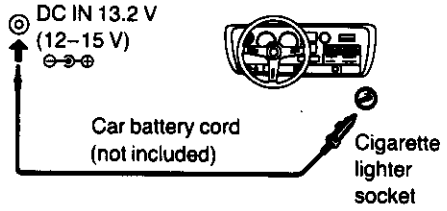
- The operation/battery check/AC connection indicator will light during AC mains operation.



Note:
To operate on battery power, unplug the AC mains cord from the household AC mains outlet and the AC socket on the unit.

■ Car Battery Operation

1. Insert the plug of the car battery cord into the DC Input Jack.
2. Plug the other end into the cigarette lighter socket in your car.
   Upon plugging the car battery cord into the DC Input Jack, the unit will automatically switch from internal battery to car battery operation.



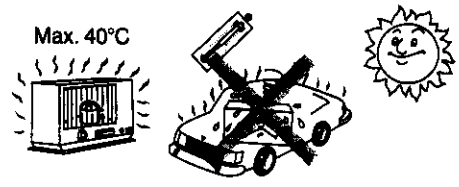
PRECAUTIONS

- **If the set is not used for a long period of time or is used only from an AC mains source, remove all the batteries to prevent potential damage due to possible battery leakage.**
- Avoid using or placing this unit near sources of heat. Do not leave it in an automobile exposed to direct sunlight for a long time with the doors and windows closed as this may deform the cabinet.
- Avoid cuts, scratches, or poor connections in the AC mains cord, as they may result in possible fire or electric shock hazard. Also, excessive bending, pulling or splicing of the cord should be avoided.
- Do not unplug the AC mains cord by pulling on the cord. To do so may cause premature failure or shock hazard.
- Do not operate the set on AC mains in a bathroom, as a potential shock hazard may result.

To prevent possible damage to this unit

- Load new batteries with their polarities (⊕ and ⊖) aligned correctly.
- Do not apply heat to batteries, or internal short-circuit may occur.
- If this unit is not to be used for a long period of time, or used on AC mains supply, remove all batteries and store them in a cool and dry place.
- Remove spent batteries immediately.
- Do not use old and new batteries together. Also never use an alkaline battery with a manganese battery.

- When not in use, disconnect the AC mains cord from the AC mains outlet.



Operation switch (OPR/BATT-STDBY ⏻)

Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

BASIC OPERATING PROCEDURE

■ XBS system (Extra bass system)

When the XBS level control is adjusted, the level of the dynamic low frequency sound range is boosted.
Using this system with the tone control helps you to get more dynamic sounds.

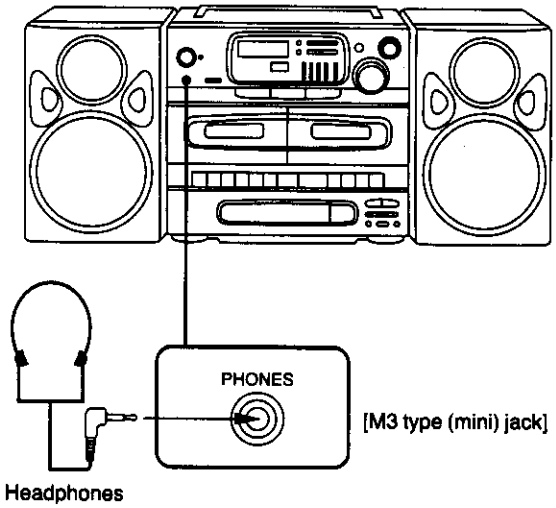
■ Graphic equalizer

It allows you to tailor the frequency response of the unit to compensate for room acoustics and other factors which affect frequency response. The overall tone can be altered by adjusting the controls which control the following frequency bands:
330 Hz, 1 kHz, 3.3 kHz, 10 kHz.
Positioning the control to the "+" side of the detent will amplify the corresponding frequency band; the "−" side will attenuate it.

■ After use

Be sure to reduce the volume level, and turn off by pressing the operation switch.

■ Headphones connection



- Avoid listening for prolonged periods of time to prevent hearing damage.
- Speakers are automatically cut off when the headphones are connected.

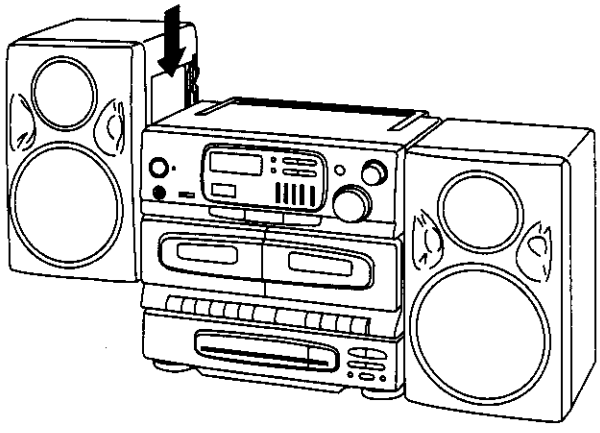
SPEAKER SYSTEM CONNECTION

This unit can be used as a one-piece portable stereo radio cassette recorder, or a three-piece component system, by attaching or detaching the speaker system.

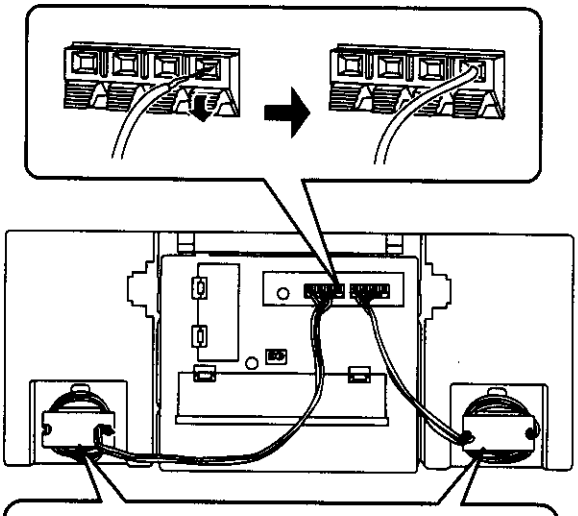
- Before attaching or detaching the speakers, be sure to disconnect the speaker cables from the speaker terminals.
- Be sure to press the operation switch to turn off the unit before connecting/disconnecting the speaker cables.

■ Attaching the speakers

1. Align the speaker with the main unit as shown in the figure, interlock the grooves and press down.



2. Connect the colored speaker cables to the same colored speaker terminals.

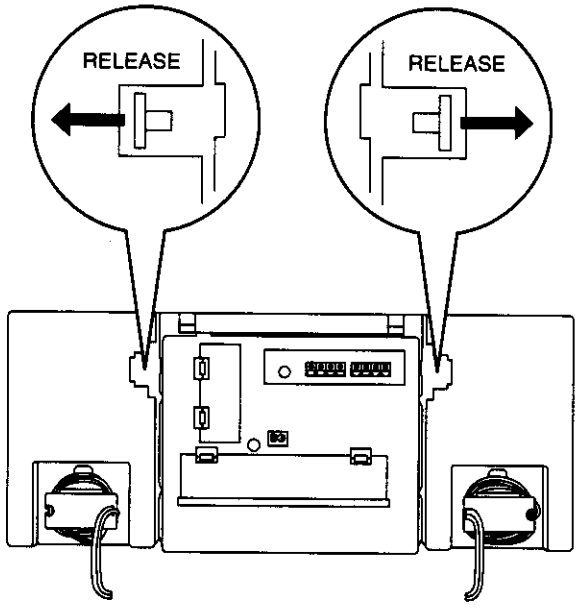


When using the unit with the speakers attached, wind the speaker cables as shown.

Note:
Since a strong magnet is used for the speaker, keep magnetized commuter passes, tickets or personal credit cards, recorded tapes, watches, etc. away from the set. The speaker magnet in the set may damage them.

■ Detaching the speakers

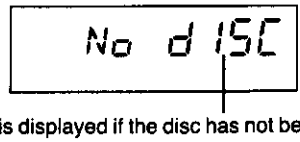
1. Unlock the speaker release levers by pulling them in the direction shown below, and slide up each speaker.



2. Connect the speaker cables to the speaker terminals.

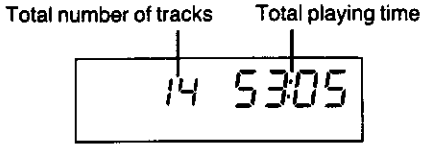
■ Sequential play

1. Press the operation switch to turn on the unit.
2. Press the "CD" button of the function select buttons.
   CD mode indicator will appear.



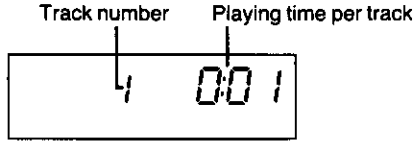
"No disc" is displayed if the disc has not been loaded.

3. Press the CD open/close button and load a disc. Press the CD open/close button to close the disc tray.
   When the disc tray is closed. the disc rotates, and both the total number of tracks and the total playing time appear on the display.



If you press the play button instead of the CD open/close button after inserting a disc, the tray will close and play will start directly from the track 1. But the total number of tracks and total playing time will not be displayed.

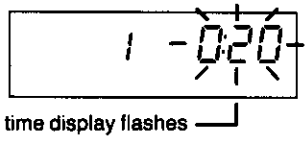
4. Press the play/pause button.
   The first track on the disc will start to play.
   The track number being played will appear on the display.



5. Adjust the volume and balance.
6. Adjust the graphic equalizer and S-XBS level controls to desired setting.

•To temporarily stop the disc

Press the play/pause button during disc play.
The playing time display will start to flash.



When the play/pause button is pressed again, disc play will resume from where it was previously stopped.

•To stop disc play

Press the stop/clear button.
The disc will automatically stop when all the tracks have been played.

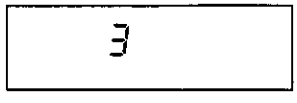
Notes:

- When playing a compact disc near a tuner or TV, it may cause noise in the broadcast, or disturbance of the TV picture. When it occurs, separate the unit from the TV or tuner set as far as possible.
- Do not place any object in front of this unit as it may hinder the opening and closing of the disc tray.
- When pressing the operation switch while the disc tray is open, the unit automatically closes the disc tray, and then switches the power off (auto close function).

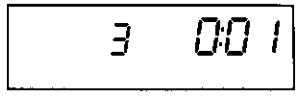
■ Direct access play

A disc can be played from a specific track to the end of the last track.

1. Press the skip/search button (|◄◄/◄◄ or ►►/►►|) to specify the desired track number.
   Press the skip/search button repeatedly until the desired track appears.



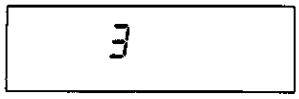
2. Press the play/pause button.
   Play will begin.



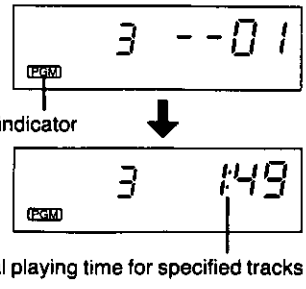
■ Program play

Up to 16 tracks can be programmed.

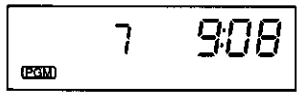
1. Press the skip/search button (|◀◀/◀◀ or ▶▶/▶▶|) to specify the desired track number.
   Press the skip/search button repeatedly until the desired track appears.



2. Press the memory/recall button.
   The play sequence is first indicated and after about 2 seconds, the time of the whole play sequence is displayed.



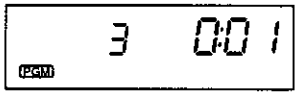
3. Repeat the steps 1–2 to be played in sequence.



"--:--" appears on the time display when the total play time of the programmed tracks exceeds 120 min 0 sec, or track no. 21 and above have been programmed.

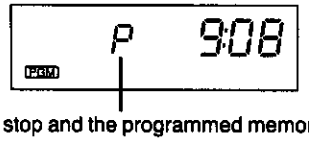
"FULL" appears and flashes on the display when the program memory is already full. This is to indicate that no more additional track can be programmed.

4. Press the play/pause button.
   Play starts in the programmed sequence.



•To stop the program play

Press the stop/clear button.
Play will stop automatically when all the programmed tracks have been played.



(Play will stop and the programmed memory will be retained.)

•To confirm the programmed track

The tracks which have been programmed and the play sequence can be checked for about 1 second when the memory/recall button is pressed in the stop mode.

■ Clearing a program

•Clearing all the programmed tracks (Cancelling the programmed play mode)

1. Press the memory/recall button in the stop mode.
   The program indicator will start to flash on the display for several seconds.
2. Press the stop/clear button while the program indicator is flashing.
   The program indicator goes out and the programming is cleared.

•Clearing only the track programmed last

Press the stop/clear button in the stop mode.
Each time the button is pressed, the track programmed last can be cleared in sequence.
Example: When tracks 3, 5 and 7 have been programmed, the tracks will be cleared in the sequence of 7, 5 and 3 each time the stop/clear button is pressed.
The programmed mode will be cancelled if you open the disc tray.

> **Note:**
> It is not possible to clear only a track located in the middle of the program (such as the third of 5 tracks).

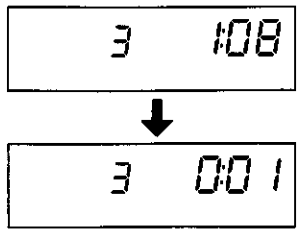
■ Skip function

During disc play, press one of the skip/search buttons momentarily until the desired track has been located.

•When you wish to listen from the beginning of the track being played...

Press the |◀◀/◀◀ button once.

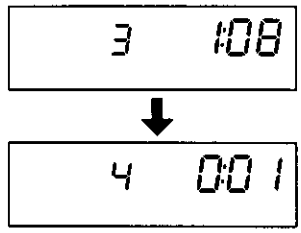
For example, if you press the |◀◀/◀◀ button while the track 3 is being played, the disc will be played from the beginning of the track 3.



•When you wish to skip the track being played and listen to the next track...

Press the ▶▶/▶▶| button once.

For example, if you press the ▶▶/▶▶| button while the track 3 is being played, the disc will be played from the beginning of the track 4.



•When you wish to skip several tracks...

Repeatedly press the skip/search button. (Check the track number on the display.)

During programmed play

The tracks are skipped in the programmed sequence.

■ Search function

While the track and time are displayed, press and hold one of the skip/search buttons during the disc play.

Release the button when the desired point has been reached.

▶▶/▶▶| : Pickup moves forward.

|◀◀/◀◀ : Pickup moves backward.

The pickup moves slowly at first and then rapidly if the button is held down for more than about 1.5 seconds.

Notes:

- During program play, you can only search the track being played.
- If you release the button immediately, the unit will go into the skip function.

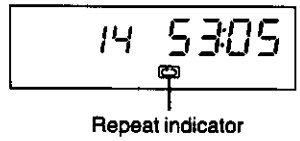
■ Repeat play

This function repeats playing all of the tracks.

In the program play mode, the tracks are played again in the programmed sequence.

Press the repeat button and then press the play/pause button.

The repeat indicator appears on the display.



•Playing one track repeatedly

First select the track with the programmed play function and press the repeat button and then play/pause button.

•Clearing the repeat play function

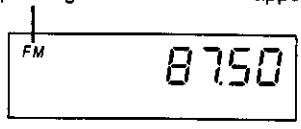
Press the repeat button again.

(The repeat indicator goes out.)

■ Manual tuning

Use tuning buttons to tune the radio to the desired broadcast frequency. The frequency changes up or down, each time the "+" or "−" button is pressed, respectively. The increment of each step is determined by the band selected.

1. Press the operation switch to turn on the unit.
2. Press "TUNER" button of the function select buttons.
3. Press the band button to select the desired radio band (FM or AM).
   The corresponding band indicator will appear.

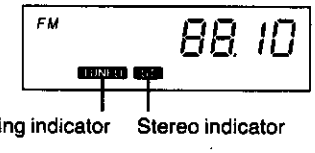


4. Tune in the radio station using the tuning buttons.
   Press the "+" or "−" button for each step required until the desired frequency appears on the display.

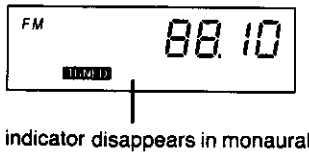
   When tuning the station, the frequency display will change as follows:
   FM: 50 kHz step
   AM: 9 kHz step

   For FM reception, press the FM mode button to select the "ST" (stereo). The stereo indicator will appear on the display when the FM stereo broadcast is being received.

   If FM stereo reception is poor (excessive noise, the stereo indicator flickers), press the FM mode button to change to the monaural position (the stereo indicator disappears). This will reduce the noise and provide clear reception. However, the broadcast cannot be heard in stereo.



Tuning indicator Stereo indicator



The stereo indicator disappears in monaural mode.

5. Adjust the volume and balance.
6. Adjust the graphic equalizer and S-XBS level controls to the desired setting.

■ FM auto tuning

By pressing the tuning button (− or +) down for a few seconds then releasing, the microprocessor automatically tunes into the next station with a strong frequency.

1. Follow the same procedures as described in steps 1–3 of "Manual tuning".
2. Press the "+" or "−" tuning button for more then 1 second.
   While tuning (the display is changing), the muting operates and the sounds cannot be heard.
   If the correct reception cannot be done by the FM auto tuning, the manual tuning is recommended.
3. Follow the same procedures as described in steps 5–6 of "Manual tuning".

■ Memory presetting

You can memorize the broadcast frequencies for up to 14 radio stations into the unit's preset memory.

1. Tune to the desired broadcast using the manual tuning or FM auto tuning.
2. Press the memory button.
   The program indicator in the display, will flash for several seconds. If the program indicator stops flashing, repeat this step, otherwise the broadcast frequency will not be stored in the next step.

3. Press one of the preset memory channel buttons to select the channel number.
4. Press the memory button again.
   The program indicator will stop flashing and the selected channel number will indicate on the display.

5. Repeat steps 1–4 to program a station into each of the remained memory channels.
   When a new frequency has been programmed, the frequency previously programmed in the channel will be cancelled.

■ Memory tuner operation

Press one of the preset memory channel buttons to receive your desired radio station.

■ Antennas

FM:

Pull out the telescopic antenna and adjust its length and angle for optimum reception.

AM:

The sensitive ferrite core antenna inside the set will provide excellent AM reception in most areas. For optimum reception, turn the set in the direction which gives the best results since the ferrite core antenna is directional.

■ Most recent memory

The most recent memory system "remembers" the broadcast station last tuned to when the radio is switched "OFF" or another function is selected. The station will be automatically tuned when the unit is switched "ON" or the radio function is selected.

TAPE PLAYBACK

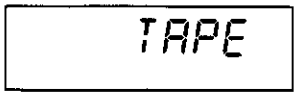
This unit has a dual cassette system, which means that a tape can be played back with both deck 1 and deck 2.
Use normal type of cassette tape only.

■ Single tape playback

1. Open the cassette compartment cover by pressing the stop/eject button. Insert the tape, and then close the cassette compartment cover.

> **Note:**
> Make sure the exposed part of the cassette tape is face down. If it is upside down, the cassette compartment cannot be closed. Do not try to force it shut.

2. Press the operation switch to turn on the unit.
3. Press "TAPE" button of the function select buttons.
   Tape display will appear on the display.



4. Press the playback button to begin the playback.
5. Adjust the volume and balance.
6. Adjust the graphic equalizer and S-XBS level controls to desired setting.

> **Note:**
> If you press deck 1 and deck 2 playback buttons simultaneously, deck 2 has priority. Consequently, when playing back deck 1, check that the deck 2 playback button is not pressed.

•To stop the playback
Press the stop/eject button.

•To stop the playback temporarily
Press the pause button.
To resume tape playback, press the pause button again.

■ Automatic playback relay (deck 2 to deck 1)

When deck 2 playback has finished, deck 1 playback starts automatically.

1. Insert the playback tapes into deck 1 and deck 2.
2. Press the deck 2 playback button.
3. Press the deck 1 pause button, then press the deck 1 playback button.

■ Full auto-stop

During playback, recording, fast forward or rewind when the tape reaches its end, the automatic stop system will release the operation buttons.

■ Fast forward and rewind

The tape will move rapidly forward when the fast forward/cue button is pressed.
The tape will rewind rapidly when the rewind/review button is pressed.

> **Note:**
> Do not press the playback button during fast forward or rewind, as this may jam the tape. Always press the stop/eject button first, between functions.

■ Cue and review

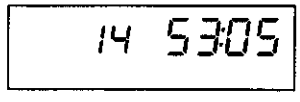
If the fast forward/cue button (or rewind/review button) is pressed during playback, the recorded sound on the tape can be monitored at a fast speed.
When the button is released, playback will resume.

■ Edit pause recording

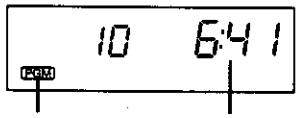
(Pauses disc play at the end of side A during edit recording)
The edit pause function will prevent recording part of one track on side A and the rest of the track on side B. For example, when recording on a 46 min. tape, tracks recorded on side A and B are not to exceed 23 min. each. (The unit displays the total time of the tracks programmed.) The unit will stop recording between sides A and B to allow you to change tape sides.
The edit pause function cannot be used together with CD repeat play.
This function does not operate during the tape playback mode.

Before operation:
Use normal type of cassette tape only.
Check that the tape's record prevention tabs are intact.
Take up the leader tape in advance.

1. Press the operation switch to turn on the unit.
2. Press the "CD" button of the function select buttons.
3. Press the CD open/close button to load the CD. Press the CD open/close button to close the disc tray.

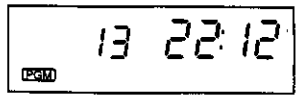


4. Press the stop/eject button of the deck 1 to insert the recording tape, then close the cover.
5. Press one of the skip/search buttons to specify the desired track to record on side A, then press the memory/recall button.
   The program indicator will appear and total playing time will be displayed.
   "--:--" appears on the display when track no. 21 and above have been programmed.



Program indicator Total playing time

6. Repeat the step 5 for as long as the recording time on one side of the tape is not exceeded.
   Try reserving one more track to see whether it will fit in. If it exceeds the recording time on one side of the tape, press the stop/clear button to cancel the track reserved last.

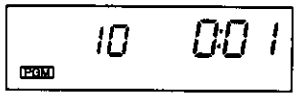


7. Press the edit pause button (the pause indicator will appear), and then press the memory/recall button.

Pause indicator

8. Press one of the skip/search buttons to specify the desired track to record on side B, then press the memory/recall button.
   The total time for the tracks to be recorded on side B of the tape is displayed next.
   Repeat this step as long as the recording time on one side of the tape is not exceeded.

9. Press the record button of the Deck 1.
   The disc play will begin in selected sequence, and recording will begin. The CD player is automatically set to the pause mode when the tracks reserved on tape side A have been played through. The tape continues in the recording mode (although no sound is recorded) until its end.



10. Press the stop/eject button to turn over the tape, and then press the record button.
    A non-recorded passage of about 13 seconds will be automatically created. Then, the disc play of the tracks reserved on tape side B will start and recording will continue.

•To stop the recording
Press the stop/eject button of deck 1 and the stop/clear button of the CD section.

•Synchro start function
This unit is provided with a synchro-start function which starts disc play when the record button is pressed.

■ Recording from CD without edit pause function

1. Press the operation switch and then press the "CD" button of the function select buttons.
2. Press the CD open/close button to insert a CD. And press the CD open/close button to close the disc tray.
3. Press the stop/eject button of the deck 1 to insert the recording tape.
4. Press the record button.
   The recording and disc play will begin.
   Do not press the skip/search button during recording.
   Monitor sound will be also recorded.

■ Recording radio broadcasts

1. Follow the procedure described in "RADIO". (See pages 15 and 16.)
2. Press the stop/eject button of the deck 1 to insert the recording tape, then close the cover.
3. Press the record button.
   Recording will begin.
   To stop the recording, press the stop/eject button.
   The "tailored" frequency response, as set by the S-XBS and graphic equalizer controls, is not recorded onto the tape. This allows you to listen to the tape on different systems and in different environments, and still be able to tailor the playback frequency response of the tape.

•Edit recording speed/beat proof selector

When an AM broadcast is recorded, the edit recording speed/beat proof selector can be used to reduce unwanted "beat" signals (whistle) which are sometimes present. Set the selector according to whichever position ("NOR/ ▮" or "HIGH/▮▮) beat reduces these "beat" signals.

■ Automatic recording level

This unit has an automatic level control (the recording level is automatically adjusted).

■ Pause button

The pause button can be used to temporarily stop the tape movement during recording or playback.
Before beginning a recording, first press and lock the pause button. Then, press the record button. (The tape will not move.) When ready to record, press the pause button to release it. This will start tape movement for immediate recording.

> **Note:**
> Do not use the pause button to stop the tape for a long period of time.

■ Monitoring

The monitor system enables you to listen, through the speakers or headphones, to the sound as it is being recorded.
If it is necessary to adjust the volume level of the sound being monitored, do so by using the volume control.

■ To erase recorded sound

When recording, previously recorded sound on the tape will be erased automatically.
To erase a tape without re-recording, use the following procedure.
Be sure to disconnect the mixing microphone from the mixing microphone jack before following the steps.

1. Press the operation switch to turn on the unit.
2. Press the "TAPE" button of the function select buttons.
3. Insert the tape to be erased into the deck 1 by pressing the stop/eject button.
4. Press the record button.

■ Synchronized editing (from deck 2 to deck 1)

When the deck 1 pause and record buttons are pressed, tape editing starts by pressing the deck 2 playback button.

1. Insert the playback tape into deck 2 and the editing tape into deck 1.
2. Follow the procedure described in steps 2 and 3 of "Single tape playback". (See page 17.)
3. Select the editing speed by setting the edit recording speed/beat proof selector.
   NOR/ ▮: Normal speed
   HIGH/▮▮: High speed
4. Press the deck 1 pause button, then press the record button.
5. Press the deck 2 playback button.
   Editing is started by means of the synchro start function.
   Do not press the "CD" or "TUNER" button of the function select buttons during editing.
   Do not change the editing speed during editing or the playback sound may flutter.
   Some TV sets generate noise that could be recorded during editing. To prevent the possibility of this, do not use this unit closer than 1.5 m to a TV set.

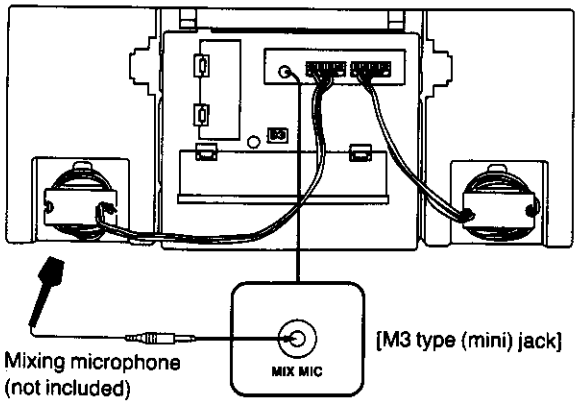
•To stop the editing

Press the deck 1 and deck 2 stop/eject buttons.

MIC MIXING

Mixing is the combination of a voice or instrumental sound (through a microphone connected to the mixing microphone jack) and the sound from a CD, tape or radio.

■ Mixing microphone connection



Mixing microphone (not included)

[M3 type (mini) jack]

■ Mixing playback

1. Connect the mixing microphone to the mixing microphone jack.
2. Set the desired source to playback mode.

■ Mixing recording

•With cassette tape

1. Connect the microphone to the mixing microphone jack after reducing the volume level.
2. Insert a tape for recording in deck 1, and a tape for playback in deck 2.
3. Press the "TAPE" button of the function select buttons.
4. Set the edit recording speed/beat proof selector to "NOR".
5. Follow the procedure described in steps 4–5 of "Synchronized editing". (See page 19.)

•With other source

1. Connect the microphone to the mixing microphone jack after reducing the volume level.
2. Insert a tape for recording in deck 1.
3. Set the desired source playback mode.
4. Press the record button.

•Recording through mixing microphone

1. Connect the microphone to the mixing microphone jack after reducing the volume level.
2. Insert a tape for recording in deck 1.
3. Set the edit recording speed/beat proof selector to "NOR".
4. Press the "TAPE" button of the function select buttons.
5. Press the record button.

Notes:

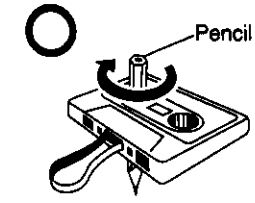
- When not using a microphone, disconnect it from the microphone jack.
- While using the microphone, howling or squealing may sometimes occur. When it occurs, separate the microphone from the speaker, or decrease the volume level.
- When the compact disc play stops or pauses while enjoying the microphone mixing, the voice from the speaker also stops.

CASSETTE TAPES

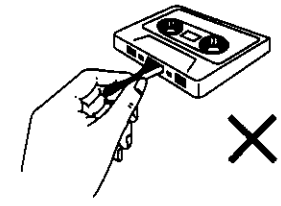
■ Cassette tapes exceeding 90 minutes

These tapes are handy for their long playback and recording time but be careful about repeatedly stopping and starting, rewinding and fast forwarding these tapes in short intervals as they are thin, tend to stretch and may become entangled in the machine.

If the tape loosens, take up the slack by turning the reel in the proper directions.



Do not handle, or pull the tape out of the cassette.

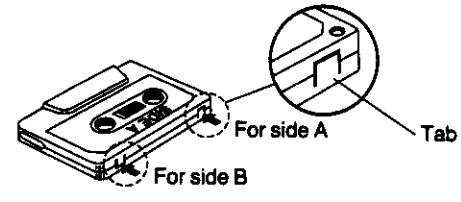


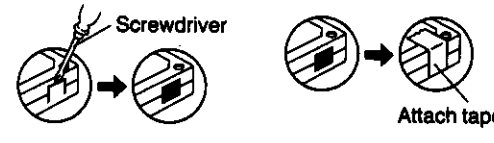
Notes:

- Use normal types of cassette tapes only. If other tapes are used, you may not obtain optimum performance.
- Cassettes, both recorded and unrecorded, should not be stored in locations with high temperature, high humidity or direct sunlight. Never place a recorded cassette near a magnetic source, such as a magnet or a TV set as this may affect tape performance.

RECORD PREVENTION TABS

Cassettes are provided with plastic tabs (as illustrated) to prevent accidental erasing of a recording.
Recordings can be made only when the tab is intact. There is one tab for each side (track) of the tape. To preserve a valuable recording, the tab(s) should be broken off with a small screwdriver.
If you want to record on a track whose tab has already been broken off, use attach tape to cover the hole, and record.





NOTES FOR CD OPERATION

■ Do not attempt to take this unit apart or attempt repairs yourself.

This unit is a very intricate device that uses a laser pickup to retrieve information from the surface of compact discs. The laser is carefully shielded so that its rays remain inside the cabinet. Therefore, never try to disassemble the player or alter any of its parts since you may be exposed to laser rays and dangerous voltages.

Laser products:
Wave Length—780 nm
Laser Power—No hazardous radiation is emitted with safety protection.

■ The top and rear panels of the unit become warm while a disc is being played.

This is one way in which the unit dissipates heat and is not a malfunction.

■ Handle this unit with care when carrying or storing, do not subject it to any strong bumps or impacts.

Always remove the disc before storing the unit for any period of time.

■ Turn down the volume control.

Compact discs have much less noise and a much wider dynamic range. Consequently, you may turn the volume up too high if you adjust it by trying to listen to surface noise as you might with a phonograph record. To prevent this problem, turn the volume down, raising it as desired only after the music has started playing.

■ Time displayed by this unit may differ slightly from the track time in the disc liner note.

The liner note included with each compact disc lists the playing times of each track. Since the times calculated by this unit include pause intervals, the displayed time may differ from the liner note time by this amount.

■ Do not place this unit near a tuner or television.

This unit uses high frequency signals and can cause interference with other radio and television reception. If this occurs, move this unit further away from the radio or television or change from an interior to an exterior television antenna.

CONCERNING COMPACT DISCS

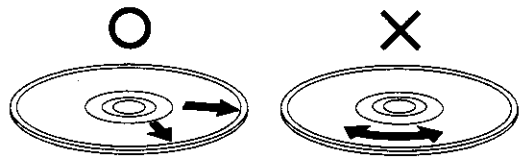
Observe the following precautions to enjoy the same outstanding performance from your compact discs for many years.

■ Handling precautions

Only compact discs having this mark can be used with this player.

COMPACT disc DIGITAL AUDIO

- Hold compact discs by the edges so the surface is not soiled with fingerprints.
- Be careful not to scratch the surface with fingernails or other sharp objects, particularly when inserting and removing discs from their cases.
- Do not bend the disc.
- Do not use record cleaning sprays or static electricity prevention liquids.
- Do not wipe with benzine, thinner or any other solvent. If the surface is soiled, wipe gently with a soft, damp (water only) cloth.
- When wiping discs, always move the cloth directly outward from the center of the disc, not in a circular motion as with standard phonograph records.



(In compact discs, circular scratches along a line of pits are more likely to cause errors than straight scratches across many lines of pits.)

- If the disc is brought from a cold environment into a warm room, dew may form on the disc. Wipe this off with a soft, dry cloth before using the disc.
- Do not try to dry discs with a hair dryer.
- Do not write on the label side with a ball-point pen, hard pencil or other writing utensil.

■ Storage precautions

- Be sure to store discs in their cases to protect them from dust, scratches and warping.
- Do not place or store discs in the following places:
  1. Locations exposed to direct sunlight
  2. Locations with high humidity or a lot of dust
  3. Locations directly exposed to a heat outlet or heating appliance
  4. In the glove compartment or rear ledge of an automobile

ABOUT DEW

Dew is often seen as water built-up on the inside of the windows in a warm room on a cold winter day.
Dew can also form inside this unit in a similar manner in the following cases:

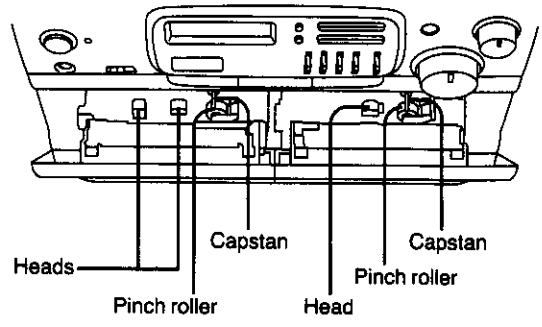
- Immediately after a heater has been turned on.
- In a steamy or very humid room.
- When the unit is suddenly moved from a cold environment to a warm place.

If dew forms inside this unit, it may not operate properly. To correct this problem, turn on the operation and wait about 1 hour for the dew to go away.

■ Cleaning of tape heads

The head assembly, capstans, and pinch rollers are in constant contact with the tape. If these parts are dirty, the sound quality will be impaired. Get into the habit of cleaning the parts regularly (after every 10 hours or so of use) in accordance with the procedure outlined below.

1. Press the operation switch to turn off the unit.
2. Open the cassette compartment covers by pressing the stop/eject buttons.
3. Clean them with a cotton swab.



Notes:

- If the heads are extremely dirty, clean them with a cotton swab dampened with a little alcohol.
- Do not bring any type of mental objects or tools such as magnetic screwdrivers in contact with the head assembly.
- Do not clean the plastic cabinet with benzine or thinner. Clean it with a solution of soap and water.
- Avoid spray-type insecticides. Some insecticides contain chemicals that could cause cabinet deformation.

MEMO

SPECIFICATIONS

■ Radio

Frequency Range:	FM; 87.50–108.00 MHz AM; 522–1611 kHz

■ Disc Player

Sampling Frequency:	44.1 kHz
Decoding:	16-bit linear
Beam Source:	Semiconductor laser (wave length 780 nm)
No. of Channels:	2 channel, stereo
Frequency Response:	20 Hz–20 kHz (0/–2 dB)
S/N;	67 dB (1 kHz)
Dynamic Range:	86 dB
Wow and Flutter:	Unmeasurable
D/A converter:	MASH (1 BIT DAC)

■ Tape Recorder

Track System:	4 track, 2 channel, stereo
Recording System:	AC bias
Erasing System:	AC erase
Monitor System:	Variable sound monitor
Frequency Range:	
Normal;	20–14000 Hz

■ General

Power Requirement:	AC; 230–240 V, 50 Hz Power consumption; 52 W Battery; 15 V (Ten R20/LR20, UM-1 batteries) Memory Back-up for Computer; 6 V (Four R6/LR6, UM-3 batteries)
Power Output:	80 W...PMPO
Speakers:	2 Woofer; 12 cm 2 Tweeter; 8 cm
Jacks:	
Input;	MIC; 4 mV (200Ω)
Output;	SPEAKER; Woofer 2.7–8Ω Tweeter 8–16Ω HEADPHONES; 32Ω
Dimensions (W×H×D):	641×272×207 mm Main unit; 300×272×207 mm Speaker box; 170×271×188 mm
Weight:	8.4 kg without batteries

Note:
Specifications are subject to change without notice.
Weight and dimensions are approximate.

MASH is a trademark of NTT.

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